

ABSTRACT

There are provided a fuel cell power generation system a method of detecting the degree of deterioration of the reformer therefor, a fuel cell power generation method, etc. which can instantaneously and continuously effect the detection of deterioration of the fuel cell power generation system, which controls the temperature of reformed gas at a constant temperature, and judge the replacement time of a reforming catalyst.

A reformer 12 of causing a raw material and water vapor to react with each other to produce a hydrogen-rich fuel gas, a fuel cell 11 of effecting power generation from the fuel gas and an oxidizing gas, a raw material flow rate detecting instrument 19 which detects the flow rate of the raw material which is being supplied into the reformer 12, a water vapor flow rate detecting instrument 20 which detects the flow rate of the water vapor which is being supplied into the reformer, a fuel gas flow rate detecting instrument 21 which detects the flow rate of the fuel gas produced in the reformer, and a deterioration degree detecting unit 22 of calculating the degree of deterioration of the reformer by comparing the calculated flow rate of fuel gas calculated from the flow rate of the raw material and the flow rate of the water vapor with the detected flow rate of fuel gas

detected were provided.